

## **REMARKS**

The April 2, 2009 Final Office Action has been carefully reviewed and considered. All pending claims remain finally rejected. Applicant respectfully requests the Examiner to reconsider the patentability of all pending claims based on the remarks below.

### **1. The Articulated Hinge Element Structurally Distinguishes Claim 24 From Ali**

In the Final Office Action, the Examiner states that the claimed articulated hinge element recited in independent claim 24 does not structurally distinguish the claimed apparatus from Ali (U.S. Patent No. 6,157,538). In support, the Examiner argues there is nothing in the instant application defining the term "articulated hinge" to exclude the structure of Ali. Applicant respectfully disagrees.

Paragraph [0035] of the instant published application explicitly defines what is meant by the term "articulated hinge." Paragraph [0035] is reproduced immediately below with emphasis added to highlight the portions particularly pertinent to the meaning of the term "articulated hinge":

Besides the substrate regions 3, 4, and 5 the substrate 2 has connecting regions 30 and 31 formed between the substrate regions (also cf. FIG. 2). The substrate regions 3 and 4 are connected such that they can move relative to one another e.g. via the connecting region 30. **The connecting region 30 functions as it were as an articulated joint or hinge, so that the substrate regions 3 and 4 can also be oriented with respect to one another to form an angle other than 180° (correction angle).** By way of example, this prevents a deformation of the substrate region 3 from continuing into the substrate region 4. By way of example, if the substrate region 3 is tilted through an angle  $\alpha$  (illustrated in greatly enlarged and exaggerated fashion in FIG. 1) with respect to the horizontal H due to deformations on account of thermally induced stresses, **it is possible, by correspondingly tilting the substrate region 4 in the opposite sense, to avoid a propagation of said angle  $\alpha$  into the substrate region 4** and even to compensate for the tilting by means of an equal and opposite tilting. A module underside 25 which is free to the greatest possible extent from deformations manifested on account of thermally induced stresses is thus provided as contact area of the power semiconductor module.

Perhaps some of the confusion surrounding the meaning of the term "articulated hinge" stems from a typographical error in paragraph [0035] of the published application. In fact, two typographical errors occurred in paragraph [0035] of the published application when the original German specification was translated into English for filing with the USPTO. The original German specification clearly states that the correction angle referred to in paragraph [0035] is an angle with respect to the orientation of the substrate regions 3 and 4 other than  $180^\circ$ , not 1800. The original German specification also clearly shows that the correction angle is referred to as  $\alpha$ , not "a". Both of these typographical errors are corrected by way of amendment herein.

It should now be clear in view of newly amended paragraph [0035] how the claimed connecting region forms an articulated hinge. Mainly, the connecting element enables adjacent substrate regions to be oriented with respect to one another **to form an angle other than  $180^\circ$** . This way, if one of the substrate regions is tilted through an angle  $\alpha$  with respect to the horizontal, the connecting element acts as an articulated hinge and tilts the adjacent substrate region in the opposite direction to avoid a propagation of the angle  $\alpha$  into the substrate region. By acting as an articulated hinge, the connecting element can compensate for the tilting by means of an equal and opposite tilting.

Ali fails to teach or suggest an articulated hinge as claimed. The Examiner argues that Ali's socket 20 is akin to the articulated hinge element of claim 24. Two modules 14, 16 plug into Ali's socket 20. However, each Figure in Ali shows the modules 14, 16 always being at the same angle with respect to one another when plugged into the socket 20. Mainly, the modules 14, 16 are always oriented at  $180^\circ$  angle with respect to one another when inserted in the socket 20. This is not what is meant by the term "articulated hinge" as defined in the instant application and described above. Ali's socket 20 is also inconsistent with the plain and ordinary meaning of the term "articulated hinge." Particularly, nothing in Ali teaches or suggests that if one of the modules is tilted through an angle  $\alpha$  with respect to the horizontal, the socket 20 can

tilt the other module in the opposite direction to avoid a propagation of the angle  $\alpha$  into the module. Thus, Ali's socket 20 does not form an articulated hinge as claimed. For this reason alone, the rejection of claim 24 is in error and must be withdrawn.

## **2. The Application Defines the Term "Elastic" So As To Exclude Ali's Socket 20**

The Examiner also argues that the instant application fails to define the relative term "elastic" so as to exclude the socket 20 of Ali. Applicant respectfully disagrees. The law of claim construction in *ex parte* prosecution requires the Examiner to give a claim term its plain and ordinary meaning, unless it is inconsistent with the specification. MPEP §2111. Moreover, the claims themselves provide substantial guidance as to the meaning of particular claim terms. The context of the surrounding words of the claim is considered in determining the ordinary and customary meaning of the claim terms. *Phillips v. AWH Corp.*, 415 F.3d 1303, 1314 (Fed. Cir. 2005). And, of course, the construction given a claim term must be consistent with the specification and how a person of ordinary skill in the art would construe the term in light of the specification. See *In re Wheeler*, 2008-1215, Serial No. 10/899,352 (Fed. Cir. 2008), *In re Hyatt*, 211 F.3d 1367, 54 USPQ2d 1664 (Fed. Cir. 2000), *In re Cortright*, 165 F.3d 1353, 49 USPQ2d 1464 (Fed. Cir. 1999), MPEP §2111.01. The Examiner's implicit construction of the term "elastic connecting element" fails on all accounts. It is inconsistent with the plain and ordinary meaning of the term, and inconsistent with the specification and how a person of ordinary skill in the art would construe the term in light of the specification.

Paragraph [0017] of the instant published application states that the connecting region has a **higher mechanical deformability (elasticity) than the substrate** usually has. This enables the connecting region to form a hinge or articulated region between the substrate regions, allowing the connecting region to prevent the substrate regions from having a reciprocal mechanical influence in the adjoining substrate regions. Thus, it is clear from the specification that the elasticity of the connecting element is in relation to that of the claimed

substrate regions. The context of the surrounding words of the claim also support such a construction. For example, claim 1 states that the elastic connecting element is arranged such that the connecting element directly contacts the side faces of the two adjacent substrates. Claim 1 further states that the connecting elements are designed to prevent a deformation of one substrate region to continue to an adjacent substrate region. The term "elastic connecting element" also must be construed as a person of ordinary skill in the art would construe the term in light of the specification. Based on the above, the elasticity of the claimed connecting element is in relation to that of the substrate regions. Applicant respectfully requests the Examiner to either reconsider the patentability of the pending claims in view of this construction or provide an alternate construction that is consistent with the specification, the claims and how a person of ordinary skill in the art would construe the term "elastic connecting element" in light of the specification.

### **3. No Evidence Showing Ali's socket 20 Prevents a Deformation as Claimed**


The Examiner also argues that Ali's socket 20 seems capable of preventing a deformation as claimed because there is no deformation seen in Ali. This statement is conclusory and self-serving at best. Just because there is no deformation seen in Ali's module does not necessarily mean that Ali's socket 20 is capable of preventing a deformation as claimed. The burden is not on the Applicant to disprove that which the Office fails to initially prove. To the contrary, the examiner "bears the initial burden of factually supporting any prima facie conclusion of obviousness." See MPEP §2142 (emphasis added). Applicant respectfully requests the Office to either provide sufficient factual support for its conclusion or withdraw the claim rejections.

Conclusion

In view of the remarks made herein, Applicant respectfully submits that the present application is in condition for immediate allowance. Action to such affect is respectfully requested. The Examiner is encouraged to contact Applicant's attorney at (919)-854-1844 if any outstanding matters can be readily addressed by a phone call.

Respectfully submitted,

COATS & BENNETT, P.L.L.C.



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Mark R. Bilak

Registration No.: 47,423

1400 Crescent Green, Suite 300  
Cary, NC 27518

Telephone: (919) 854-1844  
Facsimile: (919) 854-2084

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